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# Controlling Stomach Worms in Sheep and Lambs

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UNITED STATES DEPARTMENT OF AGRICULTURE

## Leaflet No. 89

Issued March, 1932

# CONTROLLING STOMACH WORMS IN SHEEP AND LAMBS

By E. M. Nighbert, *Extension Veterinarian in Animal Parasite Control, Zoological Division, Bureau of Animal Industry*

The stomach worm, *Haemonchus contortus*, of sheep and lambs is one of the most serious menaces confronting the sheep industry of the United States. It is widespread and its depredations are becoming more intense as flocks increase in numbers or are confined to smaller ranches and farms. As pastures become older the infective parasite material accumulates on them.

Sheep stomach worms (fig. 1) are blood suckers, slightly reddish in color, and about the diameter of a pin. The male is about one-half inch long. The female is about 1¼ inches long, with a spiral stripe passing through the body. A wriggling mass containing hundreds and often thousands of worms can be seen in the fourth stomach of an infected sheep.

## Copper Sulphate an Effective Remedy

Regularly dosing sheep and lambs with a 1 per cent solution of copper sulphate is an effective method of controlling stomach worms. It was worked out by the Department of Agriculture as an aid to sheep raisers and can be applied by individuals or by community groups of sheep raisers. Repeated tests made with farm flocks for 16 years have demonstrated that the remedy, when properly administered, is safe and about 97 per cent effective in controlling the worms. Dosing every 25 to 30 days in the colder sections of the country is effective. In the Southern States, where climate has little retarding influence on the development of the worms, sheep and lambs should be dosed every two weeks. Dosing should be commenced as soon as the grass begins to grow.

In dealing with stomach-worm control and other parasite problems, it is advisable for sheep owners to consult a competent veterinarian. The services of the local extension agencies can be obtained in organizing campaigns for general control measures in a community or county.

## Preparing the Solution

To prepare the dosing solution, dissolve one-fourth pound of copper sulphate (bluestone) in 1 pint of boiling water, then add enough cold water to make a total of 3 gallons. This is practically a 1 per cent solution. This quantity is enough to dose 100 adult sheep and includes an allowance for accidental waste. Use porcelain or enamel-ware utensils in preparing and administering the solution, as the chemical will corrode ordinary metal utensils.

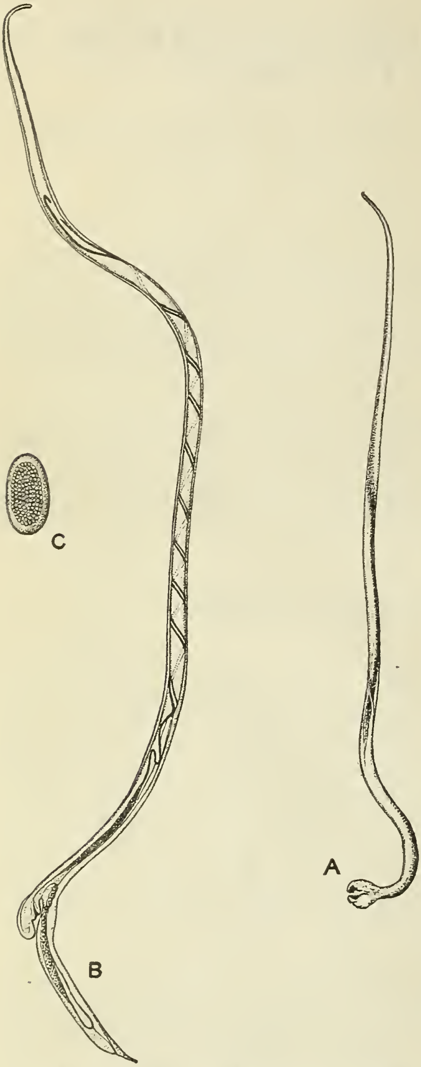

Figure 1.—A, male stomach worm (enlarged about 9 times); B, female stomach worm (enlarged about 5 times); C, egg (enlarged about 30 times)

To make the treatment for stomach worms control some of the common tapeworms as well, add 1 ounce of a 40 per cent solution of nicotine sulphate to each gallon of the 1 per cent copper sulphate solution.

## Size of Dose

A dose of the 1 per cent copper sulphate solution is about 3 fluid ounces for sheep 1 year of age and older and about half as much for lambs from 3 months to about 1 year of age. The dose of the combined treatment is the same size. If the combined treatment produces a bad effect, reduce the dose. The combined treatment should not be administered to very old or very young animals or to animals in a weakened condition resulting from causes other than parasites. Animals to be dosed should have been fasted over night.

## Dosing the Animals

For dosing the average farm flock, the apparatus especially well suited for safe work is a 3-gallon enamel-ware bucket to hold the solution, an enamel-ware funnel about 5¼ inches wide at the top, rubber tubing 3½ feet long and three-eighths inch in inside diameter, and a brass or copper nozzle or tube 6 inches long and five-sixteenths inch in inside diameter, all fitted together. A 4-ounce household enamel-ware dipper or cup marked for accurately measuring the dose helps to expedite the work. (Fig. 3.) Equipment that varies materially from the foregoing description and sizes is not likely to prove fully satisfactory.

In preparing to dose a sheep or lamb, the attendant grasps the animal in the flank, backs it into a corner against the wall, and straddles it. He keeps it standing on all four feet, and holds the nose about level with the eyes. He then grasps the nozzle of the dosing outfit with the thumb and forefinger of his right hand and passes it through the side of the animal's mouth over its tongue between the back teeth, letting the nozzle extend back about 4 inches in the mouth of grown sheep and less for lambs. He places the four fingers of

FIGURE 2.—A flock regularly dosed for the control of stomach worms

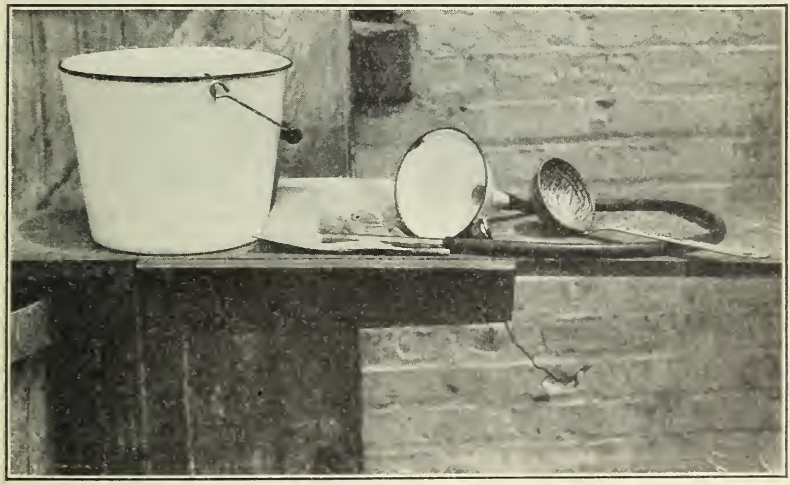

FIGURE 3.—Apparatus and chemical used for dosing: A 3-gallon enamel-ware bucket, enamel-ware funnel 5¼ inches wide at the top, rubber tubing 3½ feet long and three-eighths inch in inside diameter, a brass nozzle 6 inches long and five-sixteenths inch in inside diameter, a 4-ounce dipper accurately marked for measuring the dose, and one-fourth pound of copper sulphate, sufficient to make 3 gallons of the 1 per cent copper sulphate solution. This is enough to dose 100 sheep

his left hand under the jaw with the thumb over the nose to steady the head and to hold it in proper position. He should not grip the jaws tightly. The doser now pours the dose slowly into the funnel, which is held well above the sheep's head so that the solution will flow steadily through the tube and nozzle. The person pouring the dose must watch the sheep closely, in order not to pour too much or too little at one time and cause the animal to strangle. (Fig 4.) To encourage the sheep to swallow the solution quickly the attendant may move the nozzle about slightly in the animal's mouth. This method of dosing enables the sheep to swallow naturally and facilitates the passage of the dose directly to the fourth stomach, the home of the parasite.

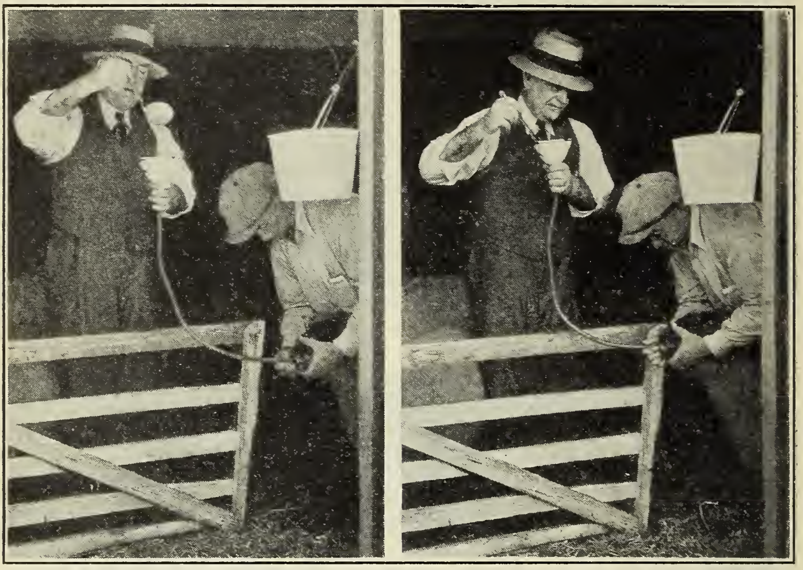

Figure 4.—At left, the wrong way to pour the dose. Too little or too much may be poured at one time, resulting in the animal being strangled. At right, the right way to hold and dose a sheep. Let the dipper drop into the funnel and gradually pour out the dose to avoid strangling the animal. This method permits the doser to keep his eyes on the animal being dosed

The flock should be confined in a small space that will hold 25 to 30 sheep (fig. 5) while they are being caught and dosed in turn. If the sheep are thus closely confined, two men can dose from 50 to 100 sheep an hour.

## Other Control Measures

As a further aid in the control of stomach worms, the rotation of sheep and lambs from permanent to temporary pastures and fields is effective. Low-lying ground, such as bottom land, should be avoided and sheep should occupy the higher well-drained ground when practicable. By breeding for early lambing, the sheepman gets his lambs to market before they are injured by stomach worms.

## Brief Facts About the Pest

Stomach worms make their homes in the stomachs of sheep and lambs. They get free meals and lodging and pay no taxes. They always injure sheep or lambs and sometimes cause their death.

Stomach worms indirectly steal the milk from a nursing lamb and make culls of the lambs they fail to kill.

Lambs intended for slaughter may be graded on the hoof according to their age, their weight, the feel of their flesh, their general appearance, and their condition. Stomach-worm infestation makes lambs grade low.

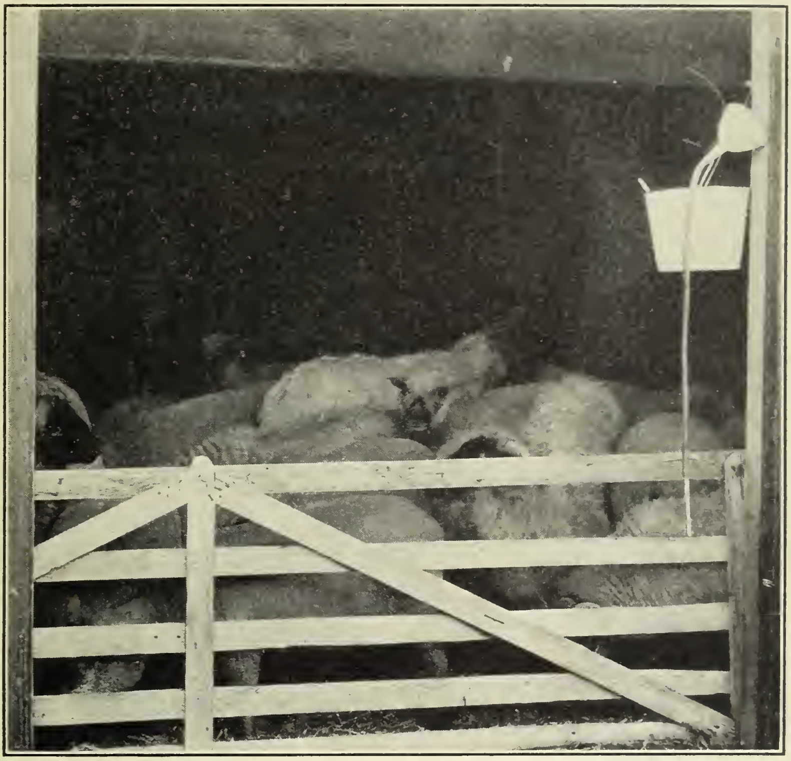

FIGURE 5.—Sheep confined for dosing. Assemble 25 or 30 sheep at a time in close quarters for convenient handling and dosing. Have the medicine and dosing equipment handy for use

A well-bred, healthy lamb carries a "bloom." Stomach-worm infestation takes away the "bloom."

The early stomach worm is too late to harm the early lamb. Breed for early lambing. A good early lamb avoids stomach-worm infestation, catches the good market, and satisfies the consumer.

Sheep flocks are kept for profit in wool, meat, and breeding stock. Stomach worms reduce the profit in all of these and in time will destroy the whole flock. Stomach worms can change a good sheep into a scrubby one in a few weeks.

Sheep-killing dogs attack the flock occasionally; stomach worms attack the flock every day.

If stomach worms and some of the common tapeworms get into the flock, use copper sulphate and nicotine sulphate to control them. Your veterinarian and your county agent will help you plan and organize your methods and equipment.

Some sheepmen prefer to medicate the salt or the feed with some remedy for the control of stomach worms. Stomach worms have the same preference. Treated salt or feed has little or no effect on stomach worms.

Stomach worms grow best when grass begins to grow. They crawl up on the grass, unsuspecting lambs eat the grass, and if not killed by treatment, the stomach worms eat the lambs. Begin dosing when grass commences to grow.

For further information on the stomach worm and its control, write to your State college of agriculture or to the United States Department of Agriculture, Washington, D. C.

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